

TECHNICAL SPECIFICATIONS

WASHINGTON STATE FERRIES

M.V. KALEETAN DOCKSIDE PRESERVATION

CONTRACT NO. 00-7076

TECHNICAL SPECIFICATIONS

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For the following Technical Specifications, the Contractor is to provide all labor, material and equipment to accomplish each and every Bid Item unless otherwise specified.

The Specification Item sub-titles in brackets are for WSF internal use only, for Life Cycle Cost modeling. Bidders should ignore such bracketed sub-titles.

- 1 **1. BERTH VESSEL**
2 {MAINTENANCE}
- 3 **M.V. KALEETAN Vessel Particulars:**
4 **Length:** 382' 2", **Beam:** 73' 2", **Draft:** 18' 6", **Gross Tons:** 2704.
- 5 A. Provide labor, material, and equipment to berth the Vessel for
6 accomplishment of the Work specified herein, and any necessary
7 repair.
- 8 B. When the terms forward, aft, port or starboard are used, No. 1 End is
9 to be considered the bow.
- 10 **2. TEMPORARY SERVICE**
11 {MAINTENANCE}
- 12 A. Install one (1) telephone on board in a location designated by the
13 Vessel Staff Chief Engineer. The telephone is to have one (1) outside
14 line with toll-free access to Seattle and vicinity and, if different, one
15 (1) line for local numbers. The telephone shall have touch-tone
16 service if available from the Contractor's telephone system.
- 17 B. Provide and maintain electricity, water, sewage removal, safe lighted
18 gangway and trash removal services while Vessel is in the
19 Contractor's facility. Estimate 15,000 gallons of accumulated sewage
20 generated while at the Contractor's facility.

- 1 C. Provide temporary lighting and ventilation throughout the Vessel
2 during the time that the Vessel's electrical systems will be inoperable
3 in the course of this Work. Temporary lighting levels shall be at least
4 equal to those lighting levels provided by the installed lighting.
5 Temporary connections directly into the lighting transformers are
6 authorized. Provide temporary connections to main motor and
7 propulsion generator heaters, No. 1 and 2 Ends davit control heaters,
8 one (1) potable water pump and one (1) ships service boiler to
9 maintain heat on the Vessel. Show all temporary connections to the
10 Vessel Staff Chief and the WSF Inspector prior to energizing.
- 11 D. Provide Safety and Security for the entire Vessel throughout the
12 construction, repair or preservation period until such time as the WSF
13 Inspector has accepted re-delivery of the Vessel. Every reasonable
14 precaution shall be taken to protect the Vessel from the hazards of fire,
15 flooding, pilferage, malicious damage, and other events including
16 cataclysmic phenomena of nature.
- 17 E. Clean and gas free all spaces and tanks associated with the Work, as
18 necessary, and obtain a Marine Chemist certificate for "SAFE FOR
19 WORKERS", and "SAFE FOR HOT WORK". Maintain the
20 certificates during the course of the Work for all Work Items of this
21 Contract.
- 22 F. Provide and maintain comprehensive and effective fire prevention and
23 fire detection, and fire fighting programs and systems sufficient to
24 ensure the safety and integrity of the Vessel. Provide personnel
25 trained in shipboard fire fighting techniques and also trained to
26 cooperate with, and assist, local fire fighting organizations. Provide
27 sufficient shore fire lines to ensure an adequate supply of fire fighting
28 water, at sufficient pressure, and maintain an adequate number of
29 tested fire-hoses aboard the Vessel to effectively fight fires from two
30 (2) directions at any location in the Vessel.
- 31 G. Provide and maintain portable fire extinguishers in sufficient quantity,
32 and of the appropriate type, to combat local fires of any Class.
33 Provide sufficient fire watches, including roving watches as may be
34 required, to ensure that fires that may be inadvertently started by
35 welding sparks or heat, electrical malfunction, or spontaneous
36 combustion are detected, reported and promptly extinguished.

- 1 H. The Contractor shall provide and maintain rigid control of welding and
2 grounding for the protection of the hull, hull systems, and appendages
3 during the entire time the Vessel is in the custody of the Contractor.
4 The Vessel shall be properly grounded throughout the period of the
5 Contract except when the Vessel is underway for Trials. There shall
6 be no welding or air arcing undertaken aboard the Vessel until a hull
7 corrosion protection system has been installed to the satisfaction of the
8 WSF Representative and hull ground cables are installed. Provide and
9 maintain zinc anodes for hull corrosion protection.
- 10 I. Hull potential readings shall be taken twice daily until satisfactory
11 potentials have been obtained and at least weekly thereafter. The
12 Contractor shall maintain a written log that indicates the station at
13 which each reading was taken, the amplitude and polarity of the
14 reading, the time and date, and the name of the individual making the
15 readings. This record shall be made available to the WSF
16 Representative upon request.
- 17 J. Provide an exact copy of the hull potential log, to date, to the WSF
18 Representative in conjunction with progress billings. Progress
19 payments WILL NOT be made until the required hull potential logs
20 have been received by the WSF Representative.
- 21 1. The total cross-sectional area of hull ground wire shall be one
22 million circular mils minimum per 1,000 amperes per 100 feet.

23 **NOTE:**

24 Hull potential shall be maintained in the range of +.75 to .9 V as measured on
25 a certified U.S. Filter Electro Catalytic corrosion potential meter, silver-silver
26 chloridem Model 33419-3. This shall be the only meter used to measure hull
27 potential.

28 **PAINTING OF VESSEL AND HULL PRESERVATION**

29 **(ATTACHMENT NO. 1)**

30 **MARINE COATING SPECIFICATION AND COLOR SCHEME**

31
32 **Area Preparation, Surface Preparation, Grit Blasting, Paint Coatings,**
33 **and Inspection for Vessel's hull, curtain plates, casing and super**
34 **structure shall be in accordance with Washington State Ferries Marine**
35 **Coating Specification, 01/03 unless otherwise specified in the following**
36 **Specifications.**

**GENERAL CONSTRUCTION REQUIREMENTS
(ATTACHMENT NO. 2)**

SUPPLEMENTAL SPECIFICATION

Details of all piping, structural and electrical installations shall be in accordance with Attachment No. 2, WSF 002 General Construction Requirements, unless otherwise specified in the following Specifications.

**3. SHIP SERVICE DIESEL GENERATORS PIPING
MODIFICATIONS
{STRUCTURAL PRESERVATION}**

- A. Disconnect and remove the existing No. 1, No. 2 and No. 3 Ship Service Diesel Generator salt water cooling pumps and piping as shown on WSF DWG 8202-627-074-01, M.V. Kaleetan, Generator Replacement Machy ARR & Piping Mods.

NOTE:

All welding qualifications, procedures, and certifications shall meet the requirements for welding as set forth in **Attachment No. 2** of this Specification.

- B. Clean the entire bilge areas of both Engine Rooms, and maintain cleanliness during the course of the Work.

- C. Install new Contractor Furnished saltwater pumps and piping as shown on WSF DWG 8202-627-074-01. Reuse the existing wiring and controllers.

- D. Testing of the diesel-alternator sets shall demonstrate, at a minimum, the following:

1. Satisfactory operation of the unit with the alternator at its rated RPM. The unit will be run with maximum ship's service load that can be allied to ensure a satisfactory installation.
2. Proper operation of the start and stop controls both at the unit and at the remote stations.

- 1 3. Proper operation of speed control both at the unit and at the
2 remote stations.
- 3 4. Normal operation of all meters, gages, and alarms.
- 4 5. Proper temperatures and pressure are maintained during the
5 test.
- 6 E. Verify that all installed systems operate as intended. This includes all
7 system components, all safety devices, and all alarms, monitoring, and
8 control devices. WSF will provide an engine crew in support of
9 generator testing and check out during load tests and dock trials.
- 10 F. Provide assistance to DETROIT DIESEL Technical Representatives to
11 assist with system testing.
- 12
- 13 **NOTE:**
14 For bidding purposes assume twenty (20) hours will be required. This Item
15 will be adjusted upwards or downwards to account for the actual labor hours
16 required by the Detroit Diesel Technical Representatives.
- 17 G. Prepare all areas of new installation and damaged paint affected by
18 this Item, to SSPC-SP 3, Power Tool Cleaning. Provide labor,
19 material and equipment to coat all prepared surfaces with
20 INTERNATIONAL, Intertuf 262 a minimum of 6 mils (DFT). Hand
21 stripe all edges using INTERNATIONAL, Intertuf 262 a minimum of
22 5 mils (DFT). Apply a minimum of 2 mils, to (DFT), to cover,
23 INTERNATIONAL, Intercare 755 finish coat to match surrounding
24 color.

TOPSIDE PREPARATION AND PAINTING

TOPSIDE ZONE DESCRIPTIONS

29 The M.V. Kaleetan is divided into eight (8) Zones for inspection, surface
30 preparation, painting, and bidding purposes. No areas in the Zones have been
31 intentionally omitted for preparation or painting. It is the Contractor's
32 responsibility to prepare, and coat all surfaces as required by the
33 Specification. The following Zone descriptions are provided for identification
34 purposes.
35

- 1 **NOTE:**
2 Prior to commencing surface preparation the Contractor will present all areas
3 for inspection, by the WSF Inspector and the Vessel Staff Chief Engineer, of
4 the protective measures taken to prevent harm or damage to the Vessel's
5 equipment, other surfaces, and systems.
6
- 7 **Zone No. 1** Port and Starboard Exterior Curtain Plating from the inboard
8 top edge of the Guard to the Passenger Deck level and from the
9 Curtain Plate extremes at No. 1 and No. 2 End.
- 10 **Zone No. 2** Port and Starboard Interior Curtain Plating from the inboard
11 top edge of the Guard to the Passenger Deck level and from the
12 Curtain Plate extremes at No. 1 and No. 2 End, including the
13 Fixtures, Vents and Louvers. Vehicle Deck vehicle lanes area
14 extending from No. 1 to No. 2 End. This area includes the
15 curbing, forward face of the thwart ship coaming between the
16 Pickleforks, inboard Machinery Casings surfaces, Overhead,
17 Ventilation Louvers, Ventilation Ducting, Piping, Curbing,
18 Light Fixtures, and all Appendages, including all Machinery
19 Casing vestibules.
- 20 **Zone No. 3** Passenger Deck exterior surfaces (outside of the Passenger
21 Cabin) from the Passenger Deck level to the top edge of the
22 Curtain Plate above the Passenger Cabin windows and below
23 Texas Deck handrails. Includes all weather surfaces of both
24 the Port and Starboard Passenger Cabin exteriors, Troughs and
25 Safety Handrails below the windows, overhang above the
26 windows, Drain Pipes and hangers, No. 1 and No. 2 End,
27 Promenade Deck exteriors, No. 1 and No. 2 End, Promenade
28 Deck interiors, No. 1 and No. 2 End Pickle fork areas, all
29 attachments and Appurtenances, Ladders, Overheads,
30 Bulkheads, Fire Stations, Doors and Passenger seating.
- 31 **Zone No. 4** Deck surface areas. Includes Texas Deck level deck and all
32 Housetops, Passenger Deck level decks, Promenades and
33 Pickleforks, Vehicle Deck walkways and all Ladders,
34 Stairways, Landings, Safety areas and Non – Skid Vehicle
35 Decks.

- 1 D. Prepare Zone 2 areas of abrasion and corrosion. For bidding purposes
2 assume 6,000 square feet will require preparation to a Hydroblasting
3 standard HB 2 ½ L, Light Flash Rusting or grit blast to an SSPC-SP6,
4 Commercial Blast Cleaning. Areas that cannot be blasted shall be
5 prepared to a SSPC-SP11, Power Tool Cleaning to Bare Metal.
6 Include the top side of the stiffener above the window cutout and
7 curbing. Remove the MES containers prior to beginning surface
8 preparation. All ratholes and sharp edges of all angles and cutouts
9 shall be mechanically ground to remove any sharp edges. The zone
10 includes fire stations and fueling and tank vent stations.
- 11 E. Areas prepared in paragraph D of this Item will be coated with two (2)
12 coats of INTERNATIONAL Intertuf 262 series Epoxy, 5 mils (DFT)
13 each coat, for a total of 10 mils (DFT). Hand-stripe all edges.
- 14 F. Apply a topcoat of INTERNATIONAL Intercare 755 series at a
15 minimum of 2 mils (DFT) to match existing color for the area, to the
16 entire area of Zone 2.

17 **5. PREP AND PAINT ZONE 3, PASSENGER CABIN EXTERIOR**
18 **{STRUCTURAL PRESERVATION}**

- 19 A. Perform a Low Pressure Water Cleaning (LP WC) at 3,000 – 5,000
20 PSI to achieve a condition of SC-1 IAW Table 2 (Non-visual Surface
21 Preparation Definitions) in SSPC-SP 12/NACE 5 Publication, in
22 Zones 3. The wand shall be held no more that twelve inches (12")
23 from surface being washed. Use Ameron, Prep 88 or International
24 GMA or equal when washing.
- 25 B. Perform an inspection of the entire fresh water washed areas to the
26 satisfaction of the WSF Inspector prior to proceeding with any
27 preparation for painting, or painting.
- 28 C. Upon completion of Fresh Water Wash, the Contractor shall wash the
29 external surfaces of all windows to remove any streaking, paint chips,
30 and any other residue left by the water wash.
- 31 D. Prepare areas of abrasion and corrosion. For bidding purposes assume
32 4,000 square feet will require preparation.
33

- 1 **NOTE:**
2 The Contractor shall have the option to grit blast to an SSPC-SP6,
3 Commercial Blast Cleaning or Hydroblast to Hydroblast Standard, HB 2 ½ L,
4 Light Flash Rusting.
5
6 E. Areas prepared in paragraph D of this Item will be coated with two (2)
7 coats of INTERNATIONAL Intertuf 262 series Epoxy, 5 mils (DFT)
8 each coat, for a total of 10 mils (DFT). Hand-stripe all edges.
9 F. Apply a topcoat of INTERNATIONAL Intercare 755 series at a
10 minimum of 2 mils (DFT) to match existing color for the area, to the
11 entire area of Zone 3.

12 **6. PREP AND PAINTING ZONE 4, DECKS AND CABIN TOPS**
13 **{STRUCTURAL PRESERVATION}**

- 14 A. Perform a Low Pressure Water Cleaning (LP WC) at 3,000 – 5,000
15 PSI to achieve a condition of SC-1 IAW Table 2 (Non-visual Surface
16 Preparation Definitions) in SSPC-SP 12/NACE 5 Publication, on the
17 Upper Passenger Deck, Texas deck Cabins and pilothouse tops. The
18 wand shall be held no more that twelve inches (12”) from surface
19 being washed. Use **AMERON, Prep 88 or International GMA** or
20 equal when washing. Perform an inspection of the entire fresh water
21 washed areas to the satisfaction of the WSF Inspector prior to
22 proceeding with any preparation for painting, or painting.
23 B. Prepare the entire area of the Upper Passenger Deck to SSPC-SP6,
24 Commercial Blast Cleaning with a track blaster to obtain a 2 to 3 mil
25 profile. Remove all traces of blast beads from all areas of the Vessel.
26 Areas that are inaccessible to a track blaster shall be prepared to
27 SSPC-SP3, Power Tool Cleaning.
28 C. Prepare areas of abrasion and corrosion on the Texas Deck, pilothouse
29 and cabin tops. For bidding purposes assume 3,000 square feet will
30 require preparation. Upon completion of the preparation and painting,
31 the Contract will be adjusted upward or downward to account for the
32 actual area authorized by the WSF Inspector.
33 D. Apply one (1) coat of INTERNATIONAL, Intertuf 262, Gray, a
34 minimum of 6 mils (DFT) to the prepared decks. Apply one (1) spot
35 coat AMERON, Amercoat 237M, Dark Gray, a minimum of 22 mils
36 (DFT) to the upper passenger deck and nonskid areas of the Texas
37 deck.

- 1 **7. PREP AND PAINTING ZONE 5, PILOTHOUSE AND**
2 **SUPERSTRUCTURE**
3 **{STRUCTURAL PRESERVATION}**
- 4 **NOTE:**
5 For bidding purposes, assume that 4000 Square Feet will require preparation.
6 Upon completion of the preparation and painting, the Contract will be
7 adjusted upward or downward to account for the actual area authorized by the
8 WSF Inspector.
- 9 A. Perform a Low Pressure Water Cleaning (LP WC) at 3,000 – 5,000
10 PSI to achieve a condition of SC-1 IAW Table 2 (Non-visual Surface
11 Preparation Definitions) in SSPC-SP 12/NACE 5 Publication, in
12 Zones 5. The wand shall be held no more that twelve inches (12")
13 from surface being washed. Use Ameron, Prep 88 or International
14 GMA or equal when washing.
- 15 B. Prepare areas of abrasion and corrosion. For bidding purposes assume
16 4,000 square feet will require preparation.
- 17 **NOTE:**
18 The Contractor shall have the option to grit blast to an SSPC-SP6,
19 Commercial Blast Cleaning or Hydroblast to Hydroblast Standard, HB 2 ½ L,
20 Light Flash Rusting.
- 21 C. Areas prepared in paragraph B of this Item will be coated with two (2)
22 coats of INTERNATIONAL Intertuf 262 series Epoxy, 5 mils (DFT)
23 each coat, for a total of 10 mils (DFT). Hand-stripe all edges.
- 24 D. Apply a topcoat of INTERNATIONAL Intercare 755 series at a
25 minimum of 2 mils (DFT) to match existing color for the area, to the
26 entire area of Zone 5.
- 27 **8. PREP AND PAINTING ZONE 6, STACKS AND MASTS**
28 **{STRUCTURAL PRESERVATION}**
- 29 **NOTE:**
30 For bidding purposes, assume that **1500 Square Feet** will require preparation,
31 staging will be required. Upon completion of the preparation and painting,
32 the Contract will be adjusted upward or downward to account for the actual
33 area authorized by the WFS Inspector.
- 34 A. Perform a Low Pressure Water Cleaning (LP WC) at 3,000 – 5,000
35 PSI to achieve a condition of SC-1 IAW Table 2 (Non-visual Surface
36 Preparation Definitions) in SSPC-SP 12/NACE 5 Publication, in
37 Zones 6. The wand shall be held no more that twelve (12") inches
38 from surface being washed. Use Ameron, Prep 88 or International
39 GMA or equal when washing.

- 1 B. Prepare areas of abrasion and corrosion. For bidding purposes assume
2 1,500 square feet will require preparation.
3
4 **NOTE:**
5 The Contractor shall have the option to grit blast to an SSPC-SP6,
6 Commercial Blast Cleaning or Hydroblast to Hydroblast Standard, HB 2 ½ L,
7 Light Flash Rusting.
8
9 C. Areas prepared in paragraph B of this Item will be coated with two (2)
10 coats of INTERNATIONAL Intertuf 262 series Epoxy, 5 mils (DFT)
11 each coat, for a total of 10 mils (DFT). Hand-stripe all edges.
12 D. Apply a topcoat of INTERNATIONAL Intercare 755 series at a
13 minimum of 2 mils (DFT) to match existing color for the area, to the
14 entire area of Zone 6.

15 **9. PREP AND PAINTING ZONE 7, STAIRWELLS**
16 **{STRUCTURAL PRESERVATION}**

- 17 A. Perform a Low Pressure Water Cleaning (LP WC) at 3,000 – 5,000
18 PSI to achieve a condition of SC-1 IAW Table 2 (Non-visual Surface
19 Preparation Definitions) in SSPC-SP 12/NACE 5 Publication, in
20 Zones 7. The wand shall be held no more that twelve inches (12")
21 from surface being washed. Use Ameron, Prep 88 or International
22 GMA or equal when washing.
23

24 **NOTE:**

25 The stairways and landings are between the passenger doors down to the
26 vehicle deck.

- 27 B. Remove the deck tile and bullnose on the stair treads and the nonskid
28 on the landings.
29 C. Prepare areas of abrasion and corrosion. For bidding purposes assume
30 1,000 square feet will require preparation.
31

32 **NOTE:**

33 The Contractor shall have the option to grit blast to an SSPC-SP6,
34 Commercial Blast Cleaning or Hydroblast to Hydroblast Standard, HB 2 ½ L,
35 Light Flash Rusting.

- 1 D. Areas prepared in paragraph A of this Item will be coated with two (2)
- 2 coats of INTERNATIONAL Intertuf 262 series Epoxy, 5 mils (DFT)
- 3 each coat, for a total of 10 mils (DFT).
- 4 E. Apply a topcoat of INTERNATIONAL Intercare 755 series at a
- 5 minimum of 2 mils (DFT) to match existing color for the area.
- 6 F. Install new deck tile and bullnose using blind rivets on the stair
- 7 threads. The landings shall have non-skid applied in accordance with
- 8 Item 8.

9 **10. PREP AND PAINTING ZONE 8, HANDRAILS AND SCREENS**
10 **{STRUCTURAL PRESERVATION }**

- 11 A. Prepare handrails by roughing the surface with sand paper and thinner
- 12 wiping on the Pickleforks, Upper Passenger Deck and Texas Deck.
- 13 B. Remove the screens from the picklefork railings. Grit blast to an
- 14 SSPC-SP6, Commercial Blast Cleaning prior to coating.
- 15 C. Apply one (1) coat International Intertuf 262, to obtain 6 to 8 mils
- 16 (DFT) to all new surfaces and prepared surfaces. Hand-stripe all
- 17 edges.
- 18 D. Top-coat with International Intercare 755, to a minimum of 2 mils
- 19 (DFT) to the entire surfaces of Zone 8.
- 20 E. Install the picklefork screens using all new 316SS hardware.

21 **11. SIGNS**
22 **{STRUCTURAL PRESERVATION}**

23 **NOTE:**

24 For bidding purposes, assume that a total of 3,000 square feet, in various areas
25 will require preparation and painting. Upon completion of the preparation and
26 painting, the Contract will be adjusted upwards or downwards to account for
27 the actual area authorized by the WSF Inspector.

- 28 A. Map all signs and stencils prior to being surface preparation in Zones 2
- 29 through 8.
- 30 B. Renew all signs and stencils upon completion of painting.

- 1 **12. ADA UPGRADES MEN'S HEAD**
2 {REGULATORY COMPLIANCE ADA}
- 3 A. Modify the Upper Passenger Deck Men's Restroom as shown on WSF
4 DWG 8202-663-020-01 MV Kaleetan UPD Men's Restroom ADA
5 Modifications.
- 6 B. Map all interferences prior to beginning ripouts.
- 7 C. Modify the piping to accept the new ADA urinal. Relocate the
8 flushing sensor unit.
- 9 D. Restore the bulkhead linings and decking along with the other
10 interferences.
- 11 E. Prepare all surfaces affected by this work to an SSPC-SP3, Power
12 Tool Cleaning. Apply one (1) anticorrosive coat, International Intertuf
13 262, to obtain 6 to 8 mils (DFT) to all new surfaces and prepared
14 surfaces. Hand-stripe all edges. Top coat with International Intercare
15 755, to a minimum of 2 mils (DFT) to match surrounding surfaces.
- 16 F. Provide new signage for the restroom.
- 17 G. Install a power operated door opening as described in Item No. 13.
- 18 **13. ADA COMPLIANCE UPGRADES DOOR OPENERS**
19 {REGULATORY COMPLIANCE ADA}
- 20 A. Install new Contractor furnished power door openers on the Men's and
21 Women's Upper Passenger Deck Heads and the elevator vestibule
22 door using WSF DWG 8202-663-090-01, MV Kaleetan, Upper
23 Passenger Deck ADA Restroom & Elevator Vestibule Power Operated
24 Doors and WSF DWG 8202-627-090-01, MV Kaleetan Refurbishment
25 Electrical One-Line Diagram.
- 26 B. WSF DWG 8202-663-090-01 shows wire runs diagrammatically,
27 actual position and wire runs shall be determined to avoid
28 interferences.

- 1 C. Prepare all surfaces affected by this work to an SSPC-SP3, Power
2 Tool Cleaning. Apply one (1) anticorrosive coat, International Intertuf
3 262, to obtain 6 to 8 mils (DFT) to all new surfaces and prepared
4 surfaces. Hand-stripe all edges. Top-coat with International Intercare
5 755, to a minimum of 2 mils (DFT) to match surrounding surfaces.

6 **14. BILGE PAINTING**
7 **[STRUCTURAL PRESERVATION]**

- 8 A. Coordinate the bilge painting with other engine room work. Areas to
9 be preserved:
10
11 1. In each engine room; the area from the deck plate level and
12 below from Bulkhead 6 to Bulkhead 30 including all structure
13 and foundations including the tops of beams and deck plate
14 structure.
- 15 B. The areas to be preserved in the engine rooms shall be treated by
16 preparation and painting using the following system:
17
18 1. Thoroughly degrease and clean the areas to be preserved by a
19 water wash to SSPC-SP 12/NACE 5 Low Pressure Water
20 Cleaning (LP WC) WJ-3.
21
22 2. Prepare areas of failed coating to SSPC-SP 3 Power Tool
23 Cleaning. Thoroughly clean the areas described in paragraph
24 "A" to by a water wash to SSPC-SP 12/NACE 5 Low Pressure
25 Water Cleaning (LP WC) WJ-3 using International GMA.
- 26 3. Paint SSPC-SP 3 prepared areas with one (1) coat of
27 INTERNATIONAL, Intertuf 262, to obtain minimum 6 mils
28 (DFT) minimum. Hand stripe all edges. Color to be tinted
29 different than existing coating.
30
31 4. Paint all of the areas described in paragraph "A" with one (1)
32 coat of INTERNATIONAL, Intertuf 262, to obtain minimum 6
33 mils (DFT). Color to be tinted to match existing coating.

34 **NOTE:**

35 For bidding purposes assume room 4000 sq ft of failed coating requiring
36 SSPC-SP 3 preparation and coating in each engine room. The Contract Price
37 will be adjusted upwards or downwards to reflect any difference in area of
38 failed coating.

1 **15. MOTOR CONTROL PANEL UPGRADES**
2 **[STRUCTURAL PRESERVATION]**

- 3
- 4 A. This Item describes the installation of two (2) Contractor's furnished
5 motor control panels and two (2) variable frequency drives (VFD's).
6
- 7 B. The renewal of these motor control panels shall be accomplished in
8 accordance with this specification and the following drawings:
9 WSF Dwg. No. 8202-627-090-01 M.V. Kaleetan, Refurbishment
10 Electrical One-Line Diagram and
11 WSF Dwg. No. 8202-659-091-01 M.V. Kaleetan, Motor Control
12 Wiring Diagram.
- 13 C. Remove the existing motor control panels and replace them with new.
- 14 D. Note and map the location of all interferences prior to removal of the
15 power panels. Remove all necessary interferences and reinstall on
16 completion of work. Protect all areas in the vicinity of hot work.
17 Moved and/or reinstalled interferences will be re-insulated and
18 preserved in same manner as original installation.
- 19 E. Disconnect all ship's wiring from the existing motor control panels.
20 Carefully document all connections.
- 21 F. Modify the existing foundations to land the new motor control Panels.
- 22 G. Existing cables may be reused if they are long enough. Should an
23 existing cable not be long enough it shall be replace in its entirety
24 from the panel to the first junction box or piece of equipment. If the
25 cable extends beyond the space in which the panel/MCC is installed, it
26 can be extended by use of a junction box or ABS approved splice kit.
- 27 H. Megger test and continuity check all new and reused cable associated
28 with Work under this Contract to the standards found in IEEE-45
29 provide the results to the WSF Inspector.
- 30 I. Connect new remote start/stop fire pump and fire and bilge pumps to
31 the locations designated on the switchboard location.
32

33 **NOTE:**

34 All cabling requirements, procedures, and installation shall meet the
35 requirements for cabling as set forth in **Attachment No. 2** of this
36 Specification.

- 1 J. Prepare all areas of new installation and damaged paint affected by
2 this Item, to SSPC-SP 3, Power Tool Cleaning. Coat all prepared
3 surfaces with INTERNATIONAL, Intertuf 262 a minimum of 6 mils
4 (DFT). Use INTERNATIONAL, Intertuf 262 to a minimum of 5 mils
5 (DFT) on all edges. Apply a minimum of 2 mils, (DFT), of
6 INTERNATIONAL, Intercare 755 finish coat to match surrounding
7 color.
- 8 K. Replace all disturbed structural, thermal, and acoustical insulation to
9 match original installation.
- 10 L. Verify that all installed systems operate as intended. This includes all
11 system components, all safety devices, and all alarms, monitoring, and
12 control devices.
- 13 M. The installation/operational testing of the motor control Panels shall
14 include, but not be limited to, the following:
- 15 1. Verify that the motor control panel installation hook-up is in
16 accordance with the Technical Specifications and Drawings.
- 17 2. Check availability and marking of components in accordance
18 with the relevant Drawings.
- 19 3. Verify the wire size and wire markers of all installed wires and
20 cables.

21 **16. CELL PHONE REPLACEMENT**
22 **[IT]**

- 23 A. Install the cellular phone system as shown on WSF DWG 8201-642-
24 095-02, M/V Hyak Cellular Phone Installation.
- 25 B. Carefully map all interferences to be removed including insulation and
26 ceiling panels.
- 27 C. Remove the existing cellular system. Shift the LAN cabinet from the
28 No. 2 pilothouse void to allow access for filter change outs on the
29 ventilation system.
- 30 D. Fabricate and install new antenna foundations in locations designated
31 by the WSF Inspector.
- 32 E. Mount the equipment in the new cabinet as shown. WSF will provide
33 an Electronics Contractor to make final connections and test system
34 operation.

- 1 F. Prepare all surfaces affected by this work to an SSPC-SP3, Power
2 Tool Cleaning. Coat with one (1) coat of INTERNATIONAL Intertuf
3 262 Epoxy, 5 mils (DFT); apply a topcoat of INTERNATIONAL
4 Intercare to a minimum of 2 mils (DFT) to match existing color.
5 Restore all removed interferences.

6 **17. MOTOR ROOM VENTILATION MODIFICATIONS**
7 **{STRUCTURAL PRESERVATION}**

- 8 A. Install a new propulsion motor ventilation system for the No.1 & 2
9 propulsion motors as shown on WSF DWG 8202-659-003-01, MV
10 Kaleetan, Machinery Casing Structural Modifications and WSF DWG
11 8200-659-064-01, Super Class Propulsion Motor & Generator Vent
12 Exhaust System Modifications. See Item No. 15, Motor Control Panel
13 Upgrades and WSF DWG 8202-659-091-01 for installation of two (2)
14 exhaust fan VFD's.
- 15 B. Map interferences prior to beginning the ripouts. Note the following
16 Items require relocation to clear the new installation.
- 17 C. Relocate the sprinkler system to clear the new ducting on the car deck.
- 18 D. Relocate the security system camera toward frame zero to clear the
19 new ducting.
- 20 E. Relocate the elevator trunk ventilation system and controls to the
21 opposite side of the elevator.
- 22 F. Relocate the fluorescent light will require relocation.
- 23 G. Relocate the Void Vent through the transverse vertical curtain plate
24 stiffener to miss the exhaust vent opening. Relocate the connection box
25 wiring and switch for the vent fan.
- 26 H. The new fan motors shall have local control and remote push buttons
27 in the switchboard.

1 **NOTE:**
2 Wherever new penetrations are required they shall maintain the watertight and
3 fire ratings of the bulkhead or deck being penetrated. Existing non-poured
4 bulkhead and deck penetrations may be reused New Multi-Cable Transits
5 shall be Nelson type. Test all deck, bulkhead and hull penetrations in
6 company with and to the satisfaction of the USCG and WSF Inspector, and
7 the Staff Chief Engineer.

8 I. Install new cables required by the new fans. Insure cables and wires
9 installed by this Item are run and marked, and continuity tests are
10 made in accordance with **Attachment No. 2**.

11 J. Replace all disturbed structural, thermal, and acoustical insulation to
12 match original installation.

13 K. Prepare all surfaces affected by this work to an SSPC-SP3, Power
14 Tool Cleaning. Apply one (1) anticorrosive coat, International Intertuf
15 262, to obtain 6 to 8 mils (DFT) to all new surfaces and prepared
16 surfaces. Hand-stripe all edges. Top-coat with International Intercare
17 755, to a minimum of 2 mils (DFT) to match surrounding surfaces.

18 **18. PIPE COUPONS**
19 **{STRUCTURAL PRESERVATION}**

20 A. Remove piping system coupons as set forth below:

21 **NOTE:**
22 A “pipe coupon” is defined as a section of pipe approximately twelve inches
23 (12”) in length removed from an existing, designated piping system. The
24 intent is to remove a designated “coupon” utilizing threaded or mechanical
25 joints at one End to the greatest extent as is practicable. The new pipe can
26 then be, for example, threaded at one End and a new appropriate joint made
27 up at the other end to make the system tight again.

28 **NOTE:**
29 The WSF Representative will assist the shipyard to determine where each
30 coupon shall be removed in agreement with the below **TABLE**. Pipe coupons
31 shall be removed from areas of suspect for corrosion problems due to their
32 location and configuration.
33
34

TABLE ~ PIPING COUPON LOCATIONS					
Item No.	Service	Size	Qty	End P/S	Location
1	Bilge Suction	2½"	2	1	
2	Bilge Suction	6"	1	1	Reduction Gear Room at bilge manifold
3	Bilge Ovbd Discharge	4"	1	1	
4	Bilge Discharge to oily water holding tank	2½"	1	1	
5	Steam Supply	2"	8	1&2	Engine Room No. 2 and Pass Deck
6	Steam Conds Return	2"	8	1&2	Engine Room No. 2 and Pass Deck
7	Flushing Water Discharge	1½"	1	2	Engine Room No. 2 above pump
8	POTW Discharge	1¼"	1	2	Engine Room No. 2 above pump
9	Bilge Suction	2½"	2	2	
10	Bilge Suction	6"	1	2	
11	Bilge Ovbd Discharge	4"	1	2	
12	Bilge Discharge to oily water holding tank	2½"	1	2	
13	Vehicle Deck Sprinkling	2½" to 3"	2	1 Port	Vehicle Deck overhead
14	Deck Sprinkling	2½" to 3"	2	2 Port	Vehicle Deck overhead

TABLE ~ PIPING COUPON LOCATIONS					
Item No.	Service	Size	Qty	End P/S	Location
15	Deck Sprinkling	2½” to 3”	2	1 Stbd	Vehicle Deck overhead
16	Deck Sprinkling	2½” to 3”	2	2 Stbd	Vehicle Deck overhead
17	Deck Sprinkling	2½” to 3”	2	1 CL	Vehicle Deck overhead
18	Deck Sprinkling	2½” to 3”	2	2 CL	Vehicle Deck overhead
19	Deck Sprinkling	3”	2	2 Port	Vehicle Deck overhead
20	Deck Sprinkling	3”	4	Port and Stbd	Inside Mchry Casing at 90° elbow , on horizontal
21	Potable Water	1¼”	2	2 Stbd	Passenger Cabin
22	Potable Water	1¼”	2	1 Port	Passenger Cabin
23	Potable Water	2”	2 ea.	1 Stbd	Passenger Cabin, both HW and CW
24	Potable Water	1”	1 ea.	1	Crew SR Passage, both HW and CW
25	Potable Water	1”	1 ea.	2	Crew SR Passage, both HW and CW

- 2 B. Renew piping where all piping system coupons were removed.
- 3 C. Provide labor, material, and equipment to operationally test the piping
- 4 system coupon replacements. In addition to operational testing, the
- 5 entire Potable Water System shall be disinfected and certified in
- 6 accordance with applicable regulations.

- 1 D. Prepare, coat, and restore insulation in way of all piping system
2 coupon replacement areas.
- 3 E. Label and deliver all removed piping system coupons to the WSF
4 Representative. Coupons shall be permanently labeled with the name
5 of the Vessel, date coupon was harvested, system, and harvest
6 location. The Contractor shall fabricate and provide wooden crates,
7 with lid, to hold all removed piping coupons. Each crate shall be of
8 200 lbs. maximum loaded weight. All coupons shall be stored in this
9 crate and upon completion the crate shall be loaded on WSF provided
10 transportation for transfer to a WSF facility for storage.

11 **19. WALK OFF MAT INSTALLATION**
12 **{ADA}**

- 13 A. Install a 6' by 8' walk off mat at each exit door from the main cabin to
14 the pickleforks, four (4) total. Mats shall be Bonar Floors Inc, Coral
15 Duo- Graphite 9110.
- 16 B. Remove existing tile and underlayment. Prepare disturbed areas in
17 way of the mat installation to an SSPC-SP 3, power tool cleaning.
- 18 C. Coat with one (1) coat of INTERNATIONAL Intertuf 262 Epoxy, 5
19 mils (DFT).
- 20 D. Install underlayment and structural fire protection so that the walkoff
21 mat to be flush with the floor tiles. Coat the underlayment with an
22 epoxy sealer prior to installing the walkoff mats. Coral Duo shall be
23 laid with the ribs running at right angles to the walking direction.
- 24 E. Install a stainless steel transition strip with removable flat top and
25 countersunk fasteners over the transition between deck tile and mat.

26 **20. STEEL REPAIRS**
27 **{STRUCTURAL PRESERVATION}**

- 28 A. Clean and gas free all spaces including any fuel tanks associated with
29 the Work, as necessary, and obtain a Marine Chemist certificate for
30 "SAFE FOR WORKERS", and "SAFE FOR HOT WORK". Maintain
31 the certificate during the course of the Work. Provide fire watches as
32 required.
- 33
- 34 B. Crop out and renew 15 curtain plate stiffeners with 4" by 5" angle.
35 Approximately 100 linear feet of stiffeners.
- 36
- 37 C. Remove the ramp at the top of the ladder from the Upper Passenger
38 deck to the Texas deck. Grind all remaining welds smooth.

- 1 D. Prepare all surfaces affected by this work to an SSPC-SP3, Power
2 Tool Cleaning. Apply one (1) anticorrosive coat, International Intertuf
3 262, to obtain 6 to 8 mils (DFT) to all new surfaces and prepared
4 surfaces. Hand-stripe all edges. Top-coat with International Intercare
5 755, to a minimum of 2 mils (DFT) to match surrounding surfaces.

6 **21. AUTOMATIC DRAFT INDICATOR SYSTEM INSTALLATION**
7 {NAVIGATION}

- 8 A. Clean and gas free all spaces including any fuel tanks associated with
9 the Work, as necessary, and obtain a Marine Chemist certificate for
10 "SAFE FOR WORKERS", and "SAFE FOR HOT WORK". Maintain
11 the certificate during the course of the Work. Provide fire watches as
12 required.
13

14 **NOTE:**

15 Wherever new penetrations are required they shall maintain the watertight and
16 fire ratings of the bulkhead or deck being penetrated. New Multi-Cable
17 Transits shall be Nelson type. Test all deck, bulkhead and hull penetrations in
18 company with and to the satisfaction of the USCG and WSF Inspector, and
19 the Staff Chief Engineer.

- 20 B. Install and connect new cables and components required by this Item.
21 Insure cables and wires installed by this Item are run and marked, and
22 continuity tests are made in accordance with WSF General
23 Construction Requirements.

- 24 C. Install the WSF furnished Automatic Draft Indication System as
25 indicated on WSF DWG 8202-607-095-01 MV Kaleetan Automatic
26 Draft Indication System Electrical Installation; and WSF DWG 8202-
27 607-002-01, MV MV Kaleetan Automatic Draft Indication System
28 Hull Installation.

- 29 D. All new steel will be prepared to an SSPC-SP 10, Near White Blast
30 Cleaning. Existing painted surfaces affected by this work will be
31 prepared to a SSPC-3, Power Tool Cleaning.

- 32 E. Fabricate and install transceiver support tubes, cable guards and
33 junction boxes in accordance with WSF DWG 8202-607-002-01.
34 Install four (4) WSF furnished ultrasonic transducers and mounting
35 hardware.

- 36 F. Within the first three (3) days of Vessel arrival, provide WSF
37 Inspector with the exact length of Transceivers Support Pipe's that
38 will be installed through the "guard".

- 1 G. Install one (1) WSF furnished pilothouse display unit in each
2 pilothouse in accordance with WSF DWG 8202-607-095-01. Install
3 one (1) WSF furnished system central processing unit in pilothouse
4 No. 1. Install one (1) WSF furnished draft indicator system printer on
5 the chart table in pilothouse No. 1 as designated by the WSF Inspector.
- 6 H. Install black phenolic nameplates with white lettering on all electrical
7 enclosures. Lettering shall be at least $\frac{3}{8}$ inch high.
- 8 I. Install and terminate all interconnecting cables, breakers, and other
9 electrical hardware in accordance with WSF DWG 8202-607-095-01.
10 Band, megger, and tag the cable in accordance with WSF General
11 Construction Requirements.
- 12 J. After equipment installation is complete, obtain the services of Weir-
13 Jones Engineering Ltd, the equipment vendor, to accomplish system
14 startup/commissioning, and necessary calibrations. See Note 15 of
15 WSF DWG 8202-607-095-01. Calibrations shall be accomplished in
16 the presence of the WSF Inspector Construction Master.
- 17 K. Conduct a satisfactory operational test to the satisfaction of the Weir-
18 Jones Engineering LTD. Vendor Representative, the WSF and USCG
19 Inspectors. Provide the WSF Inspector with three (3) written copies of
20 the test results.
- 21 L. Apply one (1) coat of INTERNATIONAL Intertuf 262 series Epoxy,
22 to a minimum of 5 mils (DFT), and topcoat with INTERNATIONAL,
23 Interthane PC series at a minimum of 2 mils (DFT) of proper color, to
24 all prepared areas.

25 **22. GPS INSTALLATION**
26 **{NAVIGATION}**

- 27 A. Install WSF furnished FURUNO GPS in a location designated by the
28 WSF Inspector.
- 29 B. Install the WSF furnished GPS Antenna on top of the No. 1 End
30 pilothouse. Modify the existing 24V DC system as required by WSF
31 DWG 8202-554-090-01, MV Kaleetan Pilothouse 24VDC Distribution
32 System Modifications and Item No. 23.
- 33 C. Provide and install new watertight penetrations in the aft bulkhead of
34 the pilothouse of the size and type to allow the antenna leads to pass
35 through.
- 36 D. Install cable run from new antenna to the aft bulkhead of the
37 pilothouse. Provide and install new watertight penetrations in the aft

- 1 bulkhead of the pilothouse of the size and type to allow the antenna
2 leads to pass through.
- 3 E. WSF will provide the services of an electronics Contractor to make the
4 final terminations.
- 5 F. Prepare all areas of new installation and damaged paint affected by
6 this Item, to SSPC-SP3, Power Tool Cleaning. Coat exterior surfaces
7 with a minimum of two 4 mil (DFT) coats of International Intertuf 262
8 series epoxy. Hand-stripe all edges. Topcoat with 2 mils (DFT) of
9 International ES series epoxy, color to match existing colors. Coat
10 interior surfaces with INTERNATIONAL INTERTUF 262, to obtain a
11 minimum of 6 to 8 mils DFT. Hand-stripe all edges. Apply a
12 minimum of 2 mils (DFT) International Intercare 755 finish coat to
13 match surrounding color.

14

15 **23. VOLT DC SYSTEM INSTALLATIONS**
16 **{Navigation}**

17

- 18 A. This Item describes the modification of the Pilothouse 24 Volt DC
19 power system, Ends No. 1 and 2. The modification of the 24 Volt DC
20 power system, shall be accomplished in accordance with this
21 specification and the following drawings:

22

23 DWG 8202-554-090-01 M/V Kaleetan, Pilothouse 24VDC
24 Distribution System Modifications and

25

26 DWG 8202-627-090-01 M/V Kaleetan, Refurbishment Electrical One-
27 Line Diagram.

- 28 B. Remove existing single pole breakers and panels and replace with two
29 (2) pole breakers and panels as shown on DWG 8202-554-090-01.

- 30 C. Protect cables from damage during the removal and installation of the
31 new Power Panels. Reconnect all cabling to be retained and test for
32 proper operation.

- 33 D. Install new foundations to land the new panel, disconnect switches,
34 battery chargers, power supplies and battery banks.

- 35 E. Provide and install new battery chargers, power supplies and
36 disconnect switches in accordance with DWG 8202-554-090-01.

- 37 F. Install new cables as shown on DWG 8202-554-090-01.

- 38 G. Existing cables may be reused if they are long enough. Should an
39 existing cable not be long enough it shall be replace in its entirety
40 from the panel to the first junction box or piece of equipment.

- 1 H. Megger test and continuity check all new and reused cable associated
2 with Work under this Contract provide the results to the WSF
3 Inspector.
4
- 5 **NOTE:**
6 All cabling requirements, procedures, and installation shall meet the
7 requirements for cabling as set forth in **Attachment No. 2** of this
8 Specification.
- 9 I. Prepare all areas of new installation and damaged paint affected by
10 this Item, to SSPC-SP 3, Power Tool Cleaning. Coat all prepared
11 surfaces with INTERNATIONAL, Intertuf 262 a minimum of 6 mils
12 (DFT). Use INTERNATIONAL, Intertuf 262 to a minimum of 5 mils
13 (DFT) on all edges. Apply a minimum of 2 mils, (DFT), of
14 INTERNATIONAL, Intercare 755 finish coat to match surrounding
15 color.
- 16 J. Replace all disturbed structural, thermal, and acoustical insulation to
17 match original installation.
- 18 K. Verify that all installed systems operate as intended. This includes all
19 system components, all safety devices, and all alarms, monitoring, and
20 control devices.
- 21 L. The installation/operational testing of the 24 VDC system shall
22 include, but not be limited to, the following:
23
- 24 1. Verify that the installation hook-up is in accordance with the
25 Technical Specifications and drawings.
26
- 27 2. Check availability and marking of components in accordance
28 with the relevant drawings.
29
- 30 3. Verify the wire size and wire markers of all installed wires and
31 cables.
32
- 33 4. Calibrate and test the new installation in accordance with the
34 Battery Charger Manufacturer's Instructions.
35
- 36 5. Calibrate and test the new installation in accordance with the
37 Power Supply's Manufacturers Instructions.

38 **24. HOT WATER HEATER INSTALLATION**
39 **{Structural Preservation}**

- 40 A. Remove the existing steam hot water heater shown on WSF DWG
41 5317-063-03, MV Kaleetan Asbestos Abatement Steam Supply and
42 Condensate Return, Lower Passenger Deck and above.

- 1 B. Steam supply and condensate lines shall be removed back to the first T
2 and capped. Potable water supply and Hot water lines shall be reused
3 with the new heater.
- 4 C. Furnish and install a new electric water heater 30 1/4" in diameter, 36"
5 deep and 67 1/2 "high. Install the new electric hot water heater on a
6 new foundation located close to the inboard bulkhead as practicable in
7 the same general location as the removed steam heater. The heater
8 shall be "Rheem-Rudd" Model Number E120A-54-GS, 480 VAC, 3
9 PH, 65 Amp. The heater shall be supplied with model No. AP8408 –
10 Low Water Cutoff and model No. E120-AS38357 UL seal kit, to be
11 installed during installation.
- 12 D. Fabricate a new foundation to install the tank.
- 13 E. Modify the existing potable service piping, drain and relief lines for
14 installation of the new 120 gallon hot water heater. Reconnect the
15 existing supply lines drain, vent and relief valve discharge to the new
16 heater.
- 17 F. Install new cables required by the tank as shown WSF DWG 8202-
18 627-090-01, M/V Kaleetan Electrical One Line Diagram to the Ship
19 Service Switchboard in the EOS. Insure cables and wires installed by
20 this ITEM are run and marked, and continuity tests are made in
21 accordance with **Attachment No. 2**.
- 22 G. Replace all disturbed structural, thermal, and acoustical insulation to
23 match original installation.
- 24 H. Prepare all surfaces affected by this work to an SSPC-SP3, Power
25 Tool Cleaning. Apply one anticorrosive coat, International Intertuf
26 262, to obtain 6 to 8 mils (DFT) to all new surfaces and prepared
27 surfaces. Hand-stripe all edges. Top-coat with International Intercare
28 755, to a minimum of 2 mils (DFT) to match surrounding surfaces.

- 1 **25. AUDIO GAUGE TREATMENT TANK**
2 **{Maintenance}**
3
- 4 A. Perform an ultrasonic survey of the Vessel's steel plating thickness on
5 the saltwater treatment tanks. The survey shall be done on all sides
6 and the top on a 6" grid pattern. The survey shall be performed in the
7 presence of the WSF Inspector. Estimate 150 shots will be required.
8
- 9 B. The readings shall be taken from the exterior of the tank. The exact
10 areas to be surveyed will be designated by the WSF Inspector. The
11 readings shall be taken through the paint in areas of smooth surface.
12 Remove and restore the paint as required to obtain the readings.
13
- 14 C. Provide the WSF Inspector with three (3) copies of the report in a
15 tabular form, identifying the locations of readings by location, original
16 plate thickness, audio gauge reading taken, and percent wastage.
17 Attach a schematic showing the locations where the shots were taken
18 and the thickness found.
19
- 20 D. Repair any coating damage as required.
- 21 **26. WEIGHT CONTROL**
22 **{ADA}**
- 23 A. The Contractor shall document weight changes and centers of gravity
24 throughout the execution of work.
25
- 26 B. At the pre-arrival conference the Contractor shall prepare and submit
27 to WSF for approval, a plan for monitoring weight and center
28 information for all weights added, removed and relocated during this
29 Vessel availability. This plan will address individuals, equipment and
30 techniques to be used in the weight control process including the
31 following points:
32
- 33 1. Certification of weighing facilities.
34
- 35 2. Where (location) the weighing will be accomplished.
36
- 37 3. If software is to be used, identify the software.
38

4. A sample data sheet showing date and time of weighing, the individual responsible for the activity, material identification, unit weight, quantity, center of gravity, and final disposition of the material (i.e. added, removed or relocated).

C. Data sheets generated by the approved process shall be submitted to WSF with progress invoices. Progress payments WILL NOT be made until all of the required weight control records have been reviewed by the WSF Representative.

(END)